

# SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 1367  
CALIBRATION DATE: 31-Jul-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.86121902e-003  
h = 6.76923677e-004  
i = 2.74823606e-005  
j = 2.23126546e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121331e-003  
b = 5.97909125e-004  
c = 1.50403552e-005  
d = 2.23272571e-006  
f0 = 6441.520

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6441.520	-1.5001	0.00003
0.9999	6814.142	0.9999	-0.00003
4.4999	7361.642	4.4999	-0.00001
7.9999	7940.018	7.9999	-0.00003
11.4998	8550.093	11.4998	0.00004
14.9999	9192.693	14.9999	0.00003
18.4999	9868.546	18.4999	0.00002
21.9999	10578.405	21.9999	-0.00005
25.4999	11323.017	25.4999	-0.00000
28.9999	12103.036	28.9999	-0.00001
32.4999	12919.137	32.4999	0.00002

Temperature ITS-90 =  $1/\{g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)]\} - 273.15$  (°C)

Temperature IPTS-68 =  $1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

